MTPX Series

MTP TWISTED PAIR MATRIX SWITCHERS

A New Generation of Twisted Pair A/V Integration

- Six models in sizes from 8x16 to 32x32
- Local video inputs and outputs
- Local audio inputs and outputs
- Audio input gain/attenuation adjustment
- Local audio output volume control
- Video pre-peaking on 25% of the outputs
- QS-FPC™ - QuickSwitch Front Panel Controller
- Compatible with Extron MTP Series products, including MTP U Series Universal Twisted Pair Receivers

Extron® Electronics
www.extron.com

Introduction

The Extron **MTPX Series Twisted Pair Matrix Switchers** offer an innovative new feature set to simplify the complexity of a twisted pair A/V system. Local video and audio inputs and outputs enable direct connection of equipment that is located within the same rack as the MTPX Matrix. This greatly simplifies system complexity by eliminating additional MTP transmitters and receivers. Additional features include switchable pre-peaking on a number of the outputs to drive signals long distances, audio input gain and attenuation to balance audio levels, and output volume control for the local outputs.

When paired with Extron MTP U Series Universal Mini Twisted Pair Receivers, MTPX Series Twisted Pair Matrix Switchers allow composite video, S-video, and VGA, along with audio or RS-232 control signals, to be sent over a single CAT 5 cable and output on the appropriate connector at the display. Using one cable for all signal types simplifies system wiring and uses only a single matrix switcher output and MTP U Series receiver per display.

The powerful feature set in the MTPX Series Twisted Pair Matrix Switchers enables integrators to greatly reduce installation time and costs associated with rack space, cabling, and installation, when compared to traditional twisted pair matrix switching. MTPX Series matrix switchers are ideal for command and control centers, classroom buildings, auditoriums, large entertainment venues, and other video, audio, and control signal routing applications.

Local Video and Audio Inputs and Outputs

In traditional twisted pair matrix switching, each local source requires a transmitter, and any local display, such as a rack-mounted monitor, requires a receiver. Integrating local devices uses up valuable UTP inputs and outputs on the matrix switcher and adds to the overall cost of the system.

Local video and audio inputs and outputs enable direct connection of equipment that is located within the same rack as the MTPX Matrix Switcher. This greatly simplifies system complexity by eliminating need for additional MTP Series transmitters and receivers.

Local Video and Audio Inputs: Each model features either three or six local inputs, depending on size, for high resolution video and stereo audio via 15-pin HD connectors and captive screw connectors. Each local input functions as a separate transmitter, converting the incoming analog signals to an Extron proprietary signal for distribution through the matrix to an MTP Series receiver.

Local Video Outputs: Smaller size MTPX and MTPX Plus models include one high resolution video output and larger sizes include two. These outputs are on 15-pin HD connectors and follow the UTP outputs. They are ideal for sending signals to a cueing monitor or videoconferencing system in the equipment rack.

Local Audio Outputs: These captive screw connectors output balanced or unbalanced line level mono audio. Each connector offers two identical mono audio outputs. There are either four or eight local audio outputs on each model, depending on size, providing the ability to route audio signals to a rack-mounted amplifier or audio processor.

Video Output Pre-Peaking

In the MTPX Series, 25% of the UTP outputs feature switchable pre-peaking for optimizing the video signal when needed. For example, the MTPX 816 features four UTP outputs with pre-peaking capability, while on the MTPX 3232, eight of the UTP outputs feature pre-peaking capability. The pre-peaking circuit provides additional compensation, which optimizes the output video signals for longer cable runs.

Front Panel and Serial Control

All six MTPX Series models ship standard with the exclusive QS-FPC - QuickSwitch Front Panel Controller, as well as RS-232/422 capability. The QS-FPC provides touch-of-a-button input and output selection directly from the front panel. With an individual button for each input and output, it is easy to configure, view, recall, and cancel I/O ties and presets, simplifying operation and saving time and effort during installation.

MTPX Series Models

SIX I/O SIZES

MTPX Series Twisted Pair Matrix Switchers are available in six fixed I/O sizes from 8x16 to 32x32. Each model is compatible with Extron MTP Series transmitters and receivers, including the MTP U Series Universal Mini Twisted Pair receivers. They are capable of routing video signals, along with audio or RS-232 control signals. All six models feature local inputs and outputs for high resolution video and audio, audio input gain/attenuation adjustment, and audio output volume control on each local audio output.

MTPX 816

8x16 MTP Series Twisted Pair Matrix Switcher for Computer Video, Audio, and RS-232

UNIQUE FEATURES

- Three local high resolution video and stereo audio inputs
- One local high resolution video output
- Four local mono audio outputs
- 2U, full rack width

MTPX 168

16x8 MTP Series Twisted Pair Matrix Switcher for Computer Video, Audio, and RS-232

UNIQUE FEATURES

- Three local high resolution video and stereo audio inputs
- One local high resolution video output
- Four local mono audio outputs
- 2U, full rack width

MTPX 1616

16x16 MTP Series Twisted Pair Matrix Switcher for Computer Video, Audio, and RS-232

UNIQUE FEATURES

- Three local high resolution video and stereo audio inputs
- One local high resolution video output
- Four local mono audio outputs
- 2U, full rack width

MTPX 1632

16x32 MTP Series Twisted Pair Matrix Switcher for Computer Video, Audio, and RS-232

UNIQUE FEATURES

- Six local high resolution video and stereo audio inputs
- Two local high resolution video outputs
- Eight local mono audio outputs
- 3U, full rack width

MTPX 3216

32x16 MTP Series Twisted Pair Matrix Switcher for Computer Video, Audio, and RS-232

UNIQUE FEATURES

- Six local high resolution video and stereo audio inputs
- Two local high resolution video outputs
- Eight local mono audio outputs
- 3U, full rack width

MTPX 3232

32x32 MTP Series Twisted Pair Matrix Switcher for Computer Video, Audio, and RS-232

UNIQUE FEATURES

- Six local high resolution video and stereo audio inputs
- Two local high resolution video outputs
- Eight local mono audio outputs
- 3U, full rack width

Overview

QS-FPC - QuickSwitch Front Panel Controller
A separate button for each input and output, enables simple, intuitive operation

Global presets
Allow you to set up I/O configurations and store them in memory for future use

View I/O mode
Easily view which inputs and outputs are actively connected

MTPX 3232
Front Panel

Front panel security lockout
Restricts access in unsecured environments.

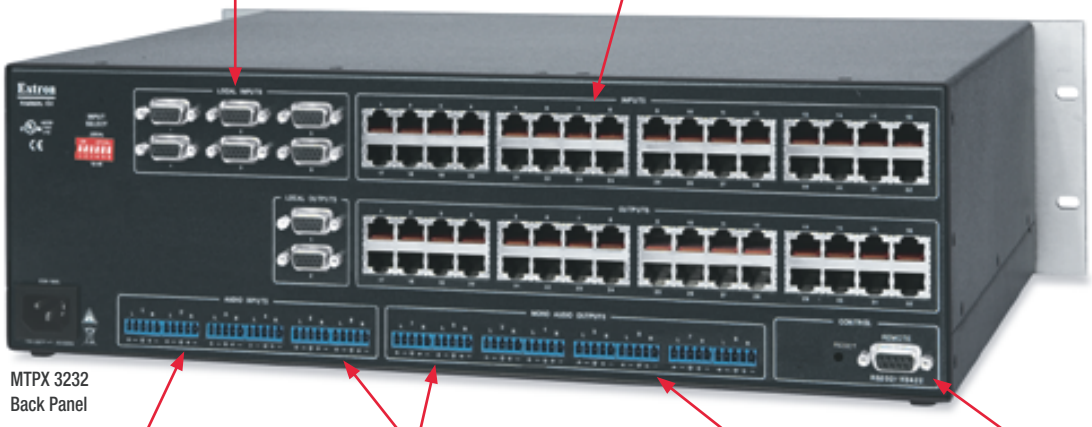
Compatible with Extron MTP products
Works with all MTP Series transmitters, receivers, and distribution amplifiers

Front panel configuration port
For convenient configuration access after installation is complete

Available in multiple I/Os
Six models in sizes from 8x16 to 32x32

Local high resolution video I/Os
Accept input from local video sources without the need for additional transmitters and receivers

Switchable video pre-peaking on 25% of the outputs
Provides additional compensation for optimal performance on the longest cable runs



MTPX 3232
Back Panel

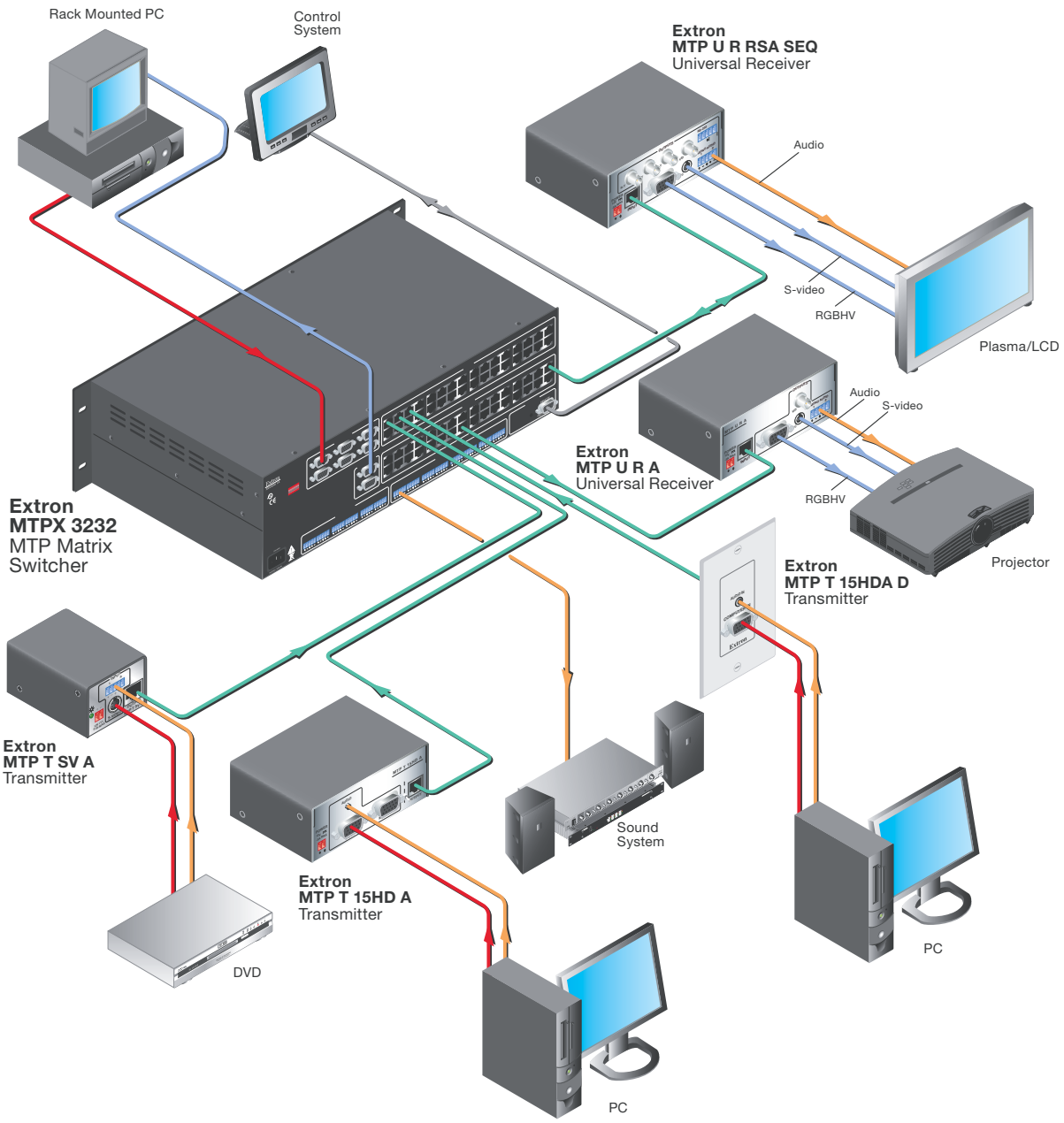
Audio input gain and attenuation
Eliminates noticeable differences in volume when switching between sources

Local Audio I/Os
Support stereo audio sources and output unbalanced line level mono audio for processing, or distribution

Local audio output volume adjustment and muting
Eliminates the need for preamplifiers in many A/V systems

RS-232 and RS-422 control
Enables switcher control and configuration via the Extron Windows-based control program, or integration into a third-party control system

Application Diagram



Specifications

VIDEO

Gain	Unity
Crosstalk	
816, 168, 1616 models	-80 dB @ 1 MHz, -55 dB @ 10 MHz, -45 dB @ 30 MHz, -37 dB @ 100 MHz
1632, 3216, 3232 models	-69 dB @ 1 MHz, -48 dB @ 10 MHz, -39 dB @ 30 MHz, -32dB @ 100 MHz
Switching speed	200 ms (max.)

VIDEO INPUT — LOCAL

Number/signal type	3 or 6 analog RGBHV, RGBS, RGsB, RsGsBs, (bi-level and tri-level), S-video, composite video
Connectors	3 or 6 female 15-pin HD
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels	0.3 V to 1.45 Vp-p with no offset at unity gain
Impedance	75 ohms
Horizontal frequency	15 kHz to 130 kHz
Vertical frequency	30 Hz to 150 Hz
Return loss	<-30 dB @ 5 MHz
DC offset (max. allowable)	250 mV

VIDEO INPUT — MAIN (see transmitters' output specifications)

Number/signal type	8, 16, or 32 proprietary analog signals
Connectors	8, 16, or 32 (depending on configuration) female RJ-45 connectors

VIDEO OUTPUT — LOCAL

Number/signal type	1 or 2 RGBHV, RGBS, RGsB, RsGsBs, component video, (bi-level and tri-level) S-video, composite video
Connectors	1 or 2 female 15-pin HD
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels	0.3 V to 1.45 Vp-p
Impedance	75 ohms
Return loss	<-30 dB @ 5 MHz
DC offset	<±20 mV with input at 0 offset

VIDEO OUTPUT — MAIN (see receivers' input specifications)

Number/signal type	8, 16, or 32 proprietary analog signals
Connectors	8, 16, or 32 (depending on configuration) female RJ-45 connectors

SYNC — LOCAL INPUTS AND OUTPUTS ONLY

Input type	RGBHV, RGBS, RGsB, RsGsBs
Output type	See receiver specifications (see specifications on Web site).
Input level	3.5 V to 5.5 Vp-p, unterminated; Vp-p normal
Output level	See receiver specifications (see specifications on Web site).
Input impedance	573 ohms ± 5%
Output impedance	110 ohms
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns
Max. rise/fall time	4 ns
Polarity	Positive or negative

AUDIO

Gain (local inputs and outputs)	Unbalanced output: 0 dB; balanced output: +6 dB
Frequency response	20 Hz to 20 kHz, ±1 dB
THD + Noise	0.15% @ 1 kHz at nominal level
S/N	>70 dB at maximum output (unweighted)
Stereo channel separation	>60 dB @ 1 kHz
CMRR	>43 dB @ 20 Hz to 20 kHz

AUDIO INPUT — LOCAL

Number/signal type	3 or 6 stereo, balanced/unbalanced
Connectors	(3) or (6) 3.5 mm captive screw connectors, 5 pole
Impedance	>10k ohms unbalanced
Nominal level	+4 dBu (1.23 Vrms), -10 dBV (316 mVrms)
Maximum level	+18 dBu, (unbalanced) at 1% THD+N

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

Number/signal type	8, 16, or 32 proprietary analog signals
Connectors	8, 16, or 32 (depending on configuration) female RJ-45 connectors

AUDIO OUTPUT — LOCAL

Number/signal type	4 or 8 dual mono, balanced/unbalanced
Connectors	(4) or (8) 3.5 mm captive screw connectors, 5 pole
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain error	±1 dB channel to channel
Maximum level (Hi-Z)	>+18 dBu, balanced or unbalanced at 1% THD+N
Maximum level (600 ohm)	>+15 dBm, balanced or unbalanced at 1% THD+N

AUDIO OUTPUT — MAIN (see receivers' input specifications)

Number/signal type	8, 16, or 32 proprietary analog signals
Connectors	8, 16, or 32 (depending on configuration) female RJ-45 connectors

CONTROL/REMOTE — SWITCHER HOST CONTROL

Serial host control ports	1 RS-232 or RS-422, rear panel 9-pin female D connector 1 RS-232 front panel 2.5 mm mini stereo jack
Baud rate and protocol	9600 to 11500, 9600 baud (default), 8 data bits, 1 stop bit, no parity
Serial control pin configurations	
9-pin female D connector	RS-232: 2 = TX, 3 = RX, 5 = GND RS-422: 2 = TX-, 3 = RX-, 5 = GND, 7 = RX+, 8 = TX+
Mini stereo jack	Tip = TX, ring = RX, sleeve = GND
Program control	Extron's control/configuration program for Windows® Extron's Simple Instruction Set (SIS™)

GENERAL

Recommended cable type	CAT 5/5E/6/7 (shielded or unshielded)
Power	100 VAC to 240 VAC, 50/60 Hz, internal
3232 models	220 watts
All other models	120 watts
Cooling	Fan, left to right (as viewed from the front panel)
Rack mount	Yes
Enclosure type	Metal
Enclosure dimensions	
3232 models	5.25" H x 17.0" W x 9.4" D (3U high, full rack wide) (13.3 cm H x 43.1 cm W x 23.9 cm D) (Depth excludes connectors. Width excludes rack ears.)
All other models	3.5" H x 17.0" W x 9.4" D (2U high, full rack wide) (8.9 cm H x 43.1 cm W x 23.9 cm D) (Depth excludes connectors. Width excludes rack ears.) Product weight
3232 models	16 lbs (7.3 kg)
All other models	8.5 lbs (3.9 kg)
Shipping weight	
3232 models	26 lbs (ll.8 kg)
All other models	18 lbs (9 kg)
DIM weight	
3232 models, international	26 lbs (11.8 kg)
All other models, international	18 lbs (8 kg)
Regulatory compliance	
Safety	CE, C-tick, CUL, UL
EMI/EMC	CE, ICES, FCC Class A, C-tick, VCCI
Environmental	Complies with the appropriate requirements of WEEE.
MTBF	30,000 hours

NOTE: All nominal levels are at ±10%.

Model	Version Description	Part number
MTPX 816	8x16	60-831-01
MTPX 168	16x8	60-830-01
MTPX 1616	16x16	60-829-01
MTPX 1632	16x32	60-895-01
MTPX 3216	32x16	60-896-01
MTPX 3232	32x32	60-894-01

Specifications are subject to change without notice.

Extron **USA - West** Headquarters
+800.633.9876 Inside USA / Canada Only
+1.714.491.1500
+1.714.491.1517 FAX

Extron **USA - East**
+800.633.9876 Inside USA / Canada Only
+1.919.863.1794
+1.919.863.1797 FAX

Extron **Europe**
+800.3987.6673 Inside Europe Only
+31.33.453.4040
+31.33.453.4050 FAX

Extron **Asia**
+800.7339.8766 Inside Asia Only
+65.6383.4400
+65.6383.4664 FAX

Extron **Japan**
+81.3.3511.7655
+81.3.3511.7656 FAX

Extron **China**
+400.883.1568 Inside China Only
+86.21.3760.1568
+86.21.3760.1566 FAX

Extron **Dubai**
+971.4.2991800
+971.4.2991880 FAX

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